

CONDUIT AND CABLE SCHEDULE STAGE I

CONDUIT DESIGNATION	CIRCUIT No.	FROM	TO	SERVICE	CONDUIT NUMBER OF SETS	CONDUIT SIZE	CABLE (PER COT.) OR BUSWAY NUMBER & SIZE	CABLE TYPE	REMARKS
A-5	A-5	EXISTING AT-41AS	150KVA EMERG. TRANSFORMER VIA DISC. SW.	480V	1	2"	3 # 4/0 1 # 2	XHHW-2 GND.	
E-41A	-	150KVA EMERG. TRANSFORMER	BKR. #EM-41C	208/120V	1	3 1/2"	4-500MCM 1 # 1/0	XHHW-2 GND.	SEE ONE LINE DIAGRAM & PLAN, DWG. #E-93
	-	BKR. #EM-41C	SPLICE BOX	208/120V	1	3 1/2"	4-500MCM 1 # 1/0	XHHW-2 GND.	
	-	SPLICE BOX	PANEL #E-41A	208/120V	1	3 1/2"	4-500MCM 1 # 1/0	XHHW-2 GND.	
	-	SPLICE BOX	EXIST. CABLE TAP BOX	208/120V	1	3 1/2"	4-500MCM 1 # 1/0	XHHW-2 GND.	
R-8-TEMP	R-8	EXIST. SWGR. BUS "R"	PANEL #DP-41N	480/277V	1	3 1/2"	4-500MCM 1 # 1/0	XHHW-2 GND.	
DP-41N-11	11	PANEL #DP-41N	COMB. STARTER	480V	1	3/4"	3 # 12 1 # 12	XHHW-2 GND.	SEE NOTE #4
		COMB. STARTER	MOTOR E-41-20	480V	1	3/4"	3 # 12 1 # 12	XHHW-2 GND.	
DP-41N-12	12	PANEL #DP-41N	STARTER CABINET	480V	1	3/4"	3 # 12 1 # 12	XHHW-2 GND.	SEE ONE LINE DIAGRAM ON THIS DWG. AND DWG. #E-10, PLAN.
		STARTER CABINET	MOTOR ACS-41N	480V	1	3/4"	3 # 12 1 # 12	XHHW-2 GND.	
DP-41N-8	8	PANEL #DP-41N	COMB. STARTER	480V	1	3/4"	3 # 12 1 # 12	XHHW-2 GND.	
		COMB. STARTER	MOTOR FP-41-1-1	480V	1	3/4"	3 # 12 1 # 12	XHHW-2 GND.	
DP-41N-14	14	PANEL #DP-41N	STARTER CABINET	480V	1	2"	3 # 3/0 1 # 3	XHHW-2 GND.	
		STARTER CABINET	MOTOR ACS-41-1	480V	1	2"	3 # 3/0 1 # 3	XHHW-2 GND.	
DP-41N-9	9	PANEL #DP-41N	TR-LV-41N	480V	1	1"	3 # 6 1 # 10	XHHW-2 GND.	
DP-41N-10	10	PANEL #DP-41N	PANEL #LV-41N (EXIST.)	480/277V	1	2"	4 # 3/0 1 # 4	XHHW-2 GND.	
LV-41N		TR-LV-41N	PANEL #LV-41N	208/120V	1	1 1/2"	4 # 1 1 # 6	XHHW-2 GND.	
A-2-TEMP	A-2	ATS-41NL	PANEL EPC-41A	480V	1	3 1/2"	3-500MCM 1 # 2/0	XHHW-2 GND.	USE FLEXIBLE CDT. FOR TEMPORARY RUN, SEE DIAGRAM "A", ON THIS DWG.
L-7-TEMP	L-7	SWGR. "L"	MCC-MN41L	480V	1	3 1/2"	3-500MCM 1 # 3/0	XHHW-2 GND.	USE FLEXIBLE CDT. FOR TEMPORARY RUN, SEE DIAGRAM "B", ON THIS DWG.

SEQUENCE OF INSTALLATION-STAGE I

FDRS A-2 AND L-7 (SEE DIAG. "A" & "B")

- A-2**
- a. DISCONNECT FDR AT ATS-41NL AND EPC-41A AND REMOVE. (ONE OF TWO PER PHASE & N.)
 - b. CUT AND REMOVE CONDUIT AS SHOWN, AND INSTALL A-2-TEMP. FLEX. CDT.
 - c. INSTALL FDR A-2-TEMPORARY FROM ATS TO EPC-41A.
 - d. CONNECT FDR AT ATS AND EPC-41A. (ENERGIZE)
- L-7**
- a. DISCONNECT FDR AT SWGR. "L" AND MCC-MN41L AND REMOVE ONE SET OF THREE SETS OF CDT'S.
 - b. CUT AND REMOVE CONDUIT AS SHOWN, AND INSTALL L-7-TEMP. FLEX. CDT.
 - c. INSTALL FDR L-7-TEMPORARY FROM MCC TO SWGR.
 - d. CONNECT FDR AT MCC AND SWGR. (ENERGIZE)

* = CATEGORY "A" OR "B"
LOAD OUTAGE - SEE NOTE #5

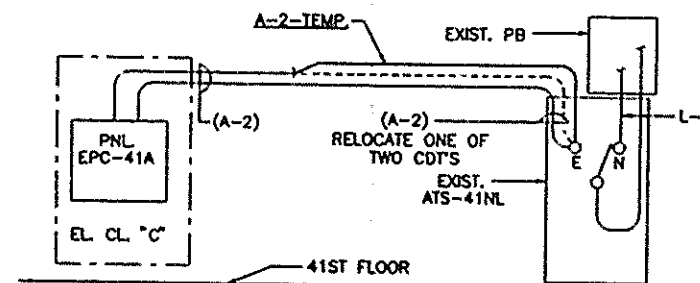
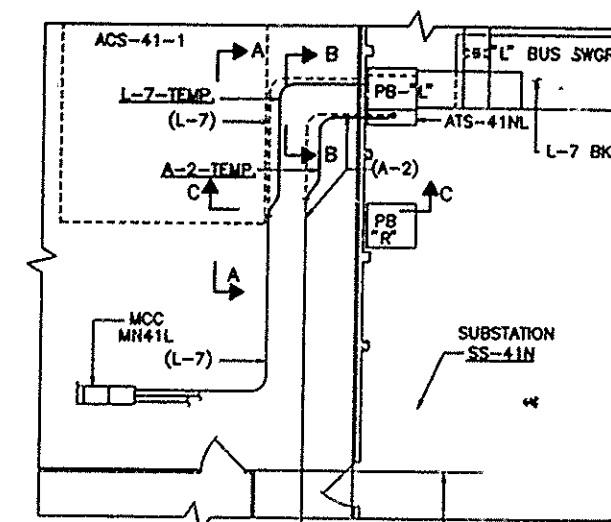
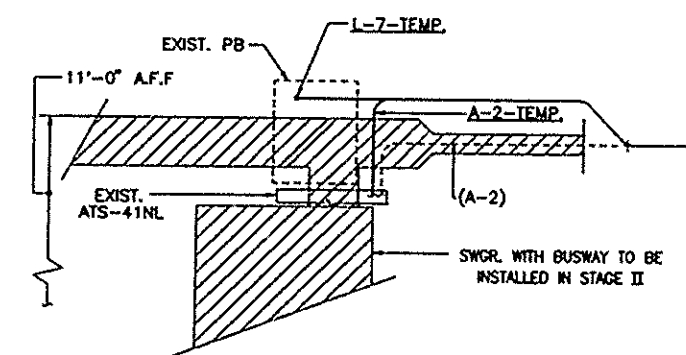


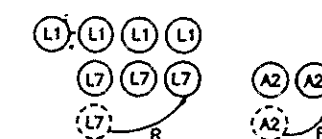
DIAGRAM "A"
RELOCATION OF FDR A-2



PART PLAN - 41st FL.
RELOCATION OF FDR'S A-2 & L-7



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE

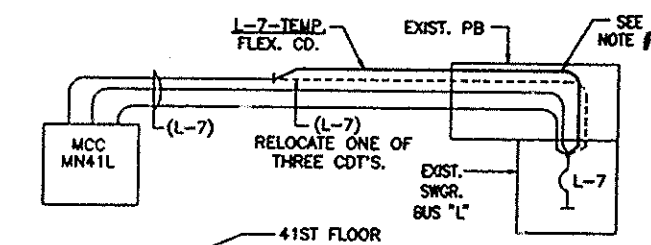
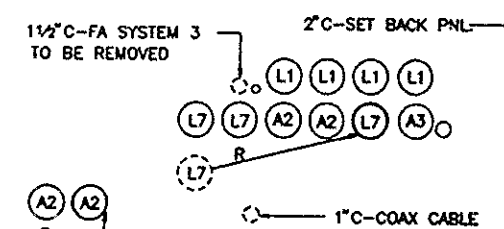
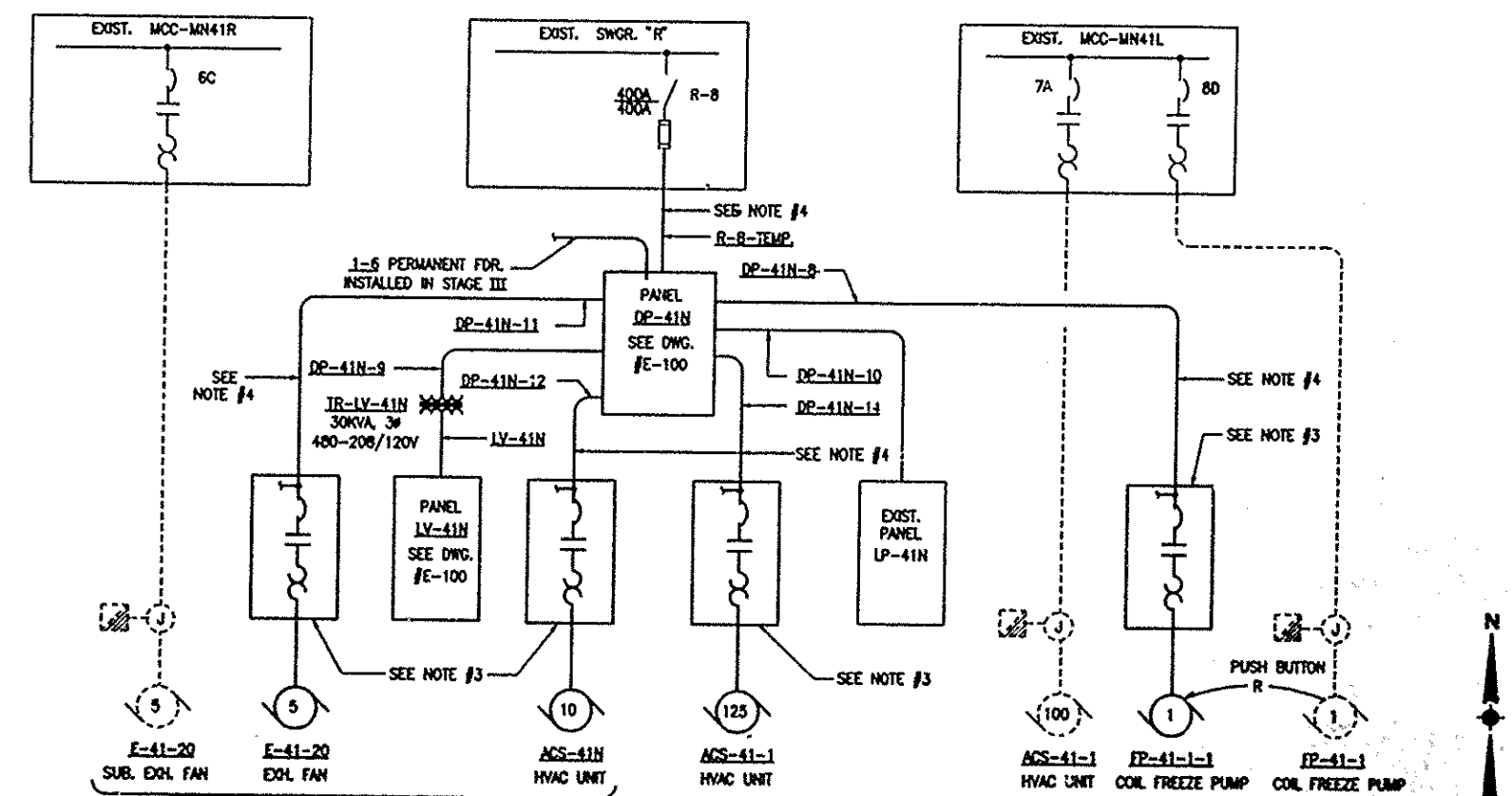


DIAGRAM "B"
RELOCATION OF FDR L-7



SECTION C-C
NOT TO SCALE



ONE LINE DIAGRAM
HVAC UNITS AND RELOCATED FEEDERS
N.T.S.

NOTES

- FOR LEGEND SEE DWG. #E-1, FOR GENERAL NOTES, ABBREVIATIONS, AND LIGHTING FIXTURE SCHEDULE SEE DWG. #E-2
- FOR TYPICAL SUBSTATION STAGE I SEQUENCE OF INSTALLATION SEE DWG. #E-4
- FOR HVAC CONTROL WIRING DIAGRAM AND DETAILS SEE DWG. #E-108.
- IN STAGE I, TEMPORARY FEEDER R-8-TEMP. SHALL SUPPLY POWER TO PNL. DP-41N WITH ONLY CDT'S. DP-41N-8, 11, 12 & 14 CONNECTED. IN STAGE III, AFTER FEEDER R-8-TEMP. IS REMOVED AND REPLACED BY FEEDER L-8 CONNECT OTHER FEEDERS TO PNL. DP-41N.
- ALL ELECTRICAL OUTAGES SHALL BE PERFORMED OUTSIDE NORMAL BUILDING OPERATING HOURS. SEE SPECIFICATIONS, DIVISION 1 ENTITLED "CONDITIONS AND PRECAUTIONS" FOR DESCRIPTION OF ELECTRICAL POWER OUTAGE CATEGORIES.
- INSTALL FEEDER WITH SWITCHGEAR OR PANEL ENERGIZED.

I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF ONE OF THE CONTRACT DRAWINGS CONSTITUTING A PART OF CONTRACT NO. WTC-802.071 IN THE FORM IN WHICH SAID DRAWINGS EXISTED AT THE TIME THE SAID CONTRACT WAS EXECUTED BY THE PARTIES.

DATE 6/21/95 *Entham A. Askan* SPEC. WRITER
DATE 8/15/95 *Peter K. Surraney* ENGINEER OF DESIGN

THE PORT AUTHORITY
OF NY & NJ

Peter K. Surraney
ENGINEERING PROGRAM MANAGER
WORLD TRADE CENTER
ELECTRICAL ENGINEER

Engineering Department
Design Divisions

The World Trade
Center
Electrical/HVAC
Upgrade Program

TOWER ONE AND TWO
LOW VOLTAGE
SUBSTATIONS
CONSTRUCTION AND
INSTALLATION

ELECTRICAL

SUBSTATION SS-41N
STAGE I ONE LINE
DIAGRAM CONDUIT
AND CABLE SCHEDULE

No. Date Revision Approved
This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

ROYZMAN
FISCHER
Designed by Drawn by Checked by

Date 5-1-93 Scale AS NOTED

Contract Number WTC 802.071 Drawing Number E-9